

### **Listing of Claims**

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) An apparatus comprising:  
a wafer adapted to fit on a wafer stage of a lithography tool, the wafer comprising[[;]]  
~~a radiation detector attached to a surface of the wafer, the radiation detector~~ to produce a signal corresponding to an amount of radiation incident on the radiation detector,  
~~detected from the lithography tool; and~~  
a processor ~~coupled to~~ in communication with the radiation detector to receive the signal, the processor to process the signal from the radiation detector, and  
a wireless transmitter in communication with the processor to receive results of processing the signal and output a wireless signal based on the results.
2. (Canceled)
3. (Currently Amended) The apparatus of Claim 1, wherein the detector is adapted to detect a dose of radiation ~~from the lithography tool.~~

4. (Currently Amended) The apparatus of Claim 1, wherein the detector is adapted to detect an intensity of radiation ~~from the lithography tool.~~

5. (Original) The apparatus of Claim 1, wherein the detector comprises an array of detectors.

6. (Currently Amended) The apparatus of Claim 1, wherein the wafer further comprising comprises alignment marks ~~adapted to align the wafer on the wafer stage of the lithography tool.~~

7. (Currently Amended) The apparatus of Claim 1, wherein the wafer further comprising comprises an amplifier ~~coupled to~~ in communication with the radiation detector and the processor, the amplifier to amplify the signal from the radiation detector and ~~transfer~~ communicate the amplified signal to the processor.

8. (Currently Amended) The apparatus of Claim 1, wherein the wafer further comprising comprises a power source ~~coupled to~~ in communication with the processor to provide power to the processor.

9. (Currently Amended) A system comprising:  
a processor; and  
a radiation detector adapted to communicate with the processor, the radiation detector dimensioned to fit on a wafer stage of a lithography tool, the radiation detector comprising

a detector element to detect an amount of radiation ~~from the lithography tool~~ incident on the detector element, and  
a memory to transmit store data ~~corresponding to~~  
describing the amount of radiation detected to the processor,  
~~the processor to compare the data corresponding to the amount of~~  
~~radiation to a setting of the lithography tool.~~

10. (Currently Amended) The system of Claim 9, wherein:  
the processor is adapted to ~~use the data corresponding to~~  
compare the amount of radiation detected to a reference; and  
the processor further comprises an output to output a  
signal for calibrate calibrating the lithography tool.

11. (Currently Amended) The system of Claim 9, wherein  
the radiation detector ~~is adapted~~ further comprises a wireless  
data transmitter to wirelessly transmit the data to the  
processor.

12. (Currently Amended) An apparatus comprising:  
a wafer sized to fit on a wafer stage of a lithography  
tool[[]] , the wafer comprising:  
a radiation detector ~~attached to a surface of the~~  
~~wafer, the radiation detector~~ to produce a signal ~~corresponding~~  
~~to~~ describing an amount of radiation incident on the radiation  
detector from the lithography tool;

a processor electrically coupled to the radiation detector, the processor to process the signal from the radiation detector; and

a memory electrically coupled to the processor, the memory to store data received from the processor, the data ~~corresponding to~~ resulting from the processing of the signal an describing the amount of radiation ~~from the lithography tool~~ incident on the detector.

13. (Currently Amended) The apparatus of Claim 12, wherein the wafer further comprising comprises an output connector adapted to output data from the memory.

14. (Currently Amended) The apparatus of Claim 12, wherein the wafer further comprising comprises a wireless transmitter coupled to the memory, ~~the transmitter~~ to wirelessly ~~transmit~~ output the data from the memory.

15. (Currently Amended) An apparatus comprising:  
a wafer substrate sized to fit on a wafer stage of a lithography tool;

a radiation detector fabricated on ~~a surface of~~ the wafer substrate, the radiation detector to produce a signal ~~corresponding to~~ indicative of an amount of radiation incident on the radiation detector ~~from the lithography tool~~;

a processor attached to the ~~surface of the~~ wafer substrate,  
the processor electrically coupled to the radiation detector,  
the processor to process the signal indicative of the amount of  
radiation incident on ~~from the radiation detector and output the~~  
~~data to the lithography tool~~ ; and

a wireless transmitter fabricated on the wafer substrate,  
the wireless transmitter in communication with the processor to  
receive results of processing the signal and output a wireless  
signal based on the results.

16. (Currently Amended) The apparatus of Claim 15,  
further comprising a memory to store ~~data~~ the results of  
processing the signal after receipt from the processor.

17. (Currently Amended) A method comprising:  
loading a wafer-shaped detector ~~[[on]]~~ onto a wafer stage  
of a first lithography tool;  
detecting an amount of radiation from the first lithography  
tool that is incident on the wafer-shaped detector; and  
wirelessly transmitting a first signal indicative of the  
amount of radiation ~~detected by~~ incident on the wafer-shaped  
detector to a remote receiver.

18. (Canceled)

19. (Original) The method of Claim 17, further comprising aligning the wafer-shaped detector on the wafer stage.

20. (Currently Amended) The method of Claim 17, further comprising converting ~~the first~~ a signal ~~corresponding to~~ indicative of the amount of radiation detected by incident on the wafer-shaped detector to ~~a second~~ the first signal ~~adapted to be wirelessly transmitted.~~

21. (Original) The method of Claim 17, wherein said detecting the amount of radiation comprises measuring a dose of radiation.

22. (Original) The method of Claim 17, wherein said detecting the amount of radiation comprises measuring an intensity of radiation.

23. (Currently Amended) The method of Claim 17, further comprising amplifying ~~the first signal~~ an output from the detector.

24. (Original) The method of Claim 17, further comprising removing the wafer-shaped detector from the wafer stage.

25. (Currently Amended) The method of Claim 17, further comprising comparing the amount of radiation ~~detected by~~ incident on the wafer-shaped detector to a pre-determined reference value.

26. (Currently Amended) The method of Claim 25, further comprising adjusting a setting of the lithography tool if the amount of radiation ~~detected by~~ incident on the wafer-shaped detector does not substantially match the pre-determined reference value.

27. (Currently Amended) The method of Claim 26, further comprising ~~repeating said~~ repeatedly detecting an amount of radiation ~~from the first lithography tool~~ incident on the detector, and transmitting a one or more second ~~signal~~ signals indicative of the amount of radiation ~~from the first lithography tool~~ detected by the repeated ~~detector~~ detections.

28. (Currently Amended) The method of Claim 17, further comprising:

loading the wafer-shaped detector ~~[[on]]~~ onto a wafer stage ~~[[in]]~~ of a second lithography tool;

detecting an amount of radiation from the second lithography tool that is incident on the wafer-shaped detector; and

wirelessly transmitting a second signal indicative of the amount of radiation ~~detected by~~ incident on the wafer-shaped detector to a remote receiver.

29. (Original) The method of Claim 28, further comprising comparing the amount of radiation detected by the detector in the first lithography tool to the amount of radiation detected by the detector in the second lithography tool.

30. (New) The system of Claim 9, wherein the radiation detector comprises a wafer-shaped radiation detector.

31. (New) The system of Claim 9, further comprising an extreme ultraviolet lithography tool, wherein the the radiation detector is dimensioned to fit on the wafer stage of the extreme ultraviolet lithography tool.